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COMMITTEE OF EXPERTS ON THE TRANSPORT
OF DANGEROUS GOODS

REPORT OF THE COMMITTEE OF EXPERTS ON ITS SEVENTEENTH SESSION
(7-16 December 1992)

Addendum 3

Annex 4: Revised Chapter 13 of the Recommendations on the Transport of Dangerous Goods.

GE.93-20968

CHAPTER 13 - RECOMMENDATIONS ON CONSIGNMENT PROCEDURES

13.1 Preamble

13.1.1 Whenever dangerous goods are offered for transport certain measures should be taken to ensure that the potential risks of the dangerous goods offered are adequately communicated to all who may come in contact with the goods in the course of transport. This has traditionally been accomplished through special marking and labelling of packages to indicate the hazards of a consignment and through the inclusion of relevant information in the transport documents and by placarding of transport units.

13.1.2 This chapter sets forth the recommended procedures for dangerous goods consignments relative to marking, labelling, documentation (by manual, electronic data processing (EDP) or electronic data interchange (EDI) techniques) and placarding.

13.2 Marking of packages

13.2.1 Unless provided otherwise in these Recommendations, the proper shipping name for the dangerous goods as determined in accordance with 13.8, and the corresponding UN Number preceded by the letters "UN", should be displayed on each package. For goods of Division 1.4, Compatibility Group S, the division and compatibility group letter should also be shown unless the label for 1.4S is displayed. A typical package marking is:

Corrosive liquid, n.o.s. (Caprylyl chloride) UN 1760

13.2.2 Provisions concerning markings on packagings relative to packaging performance standards are provided in 9.5.

13.3 Labels identifying risks

13.3.1 The labels recommended in 13.4 are mainly intended for affixing on goods or packages. The labelling system is based on the classification of dangerous goods and was established with the following aims in mind:

(a) to make dangerous goods easily recognizable from a distance by the general appearance (symbol, colour and shape) of the labels they bear;

(b) to make the nature of the risks easy to identify by means of five main symbols: bomb (explosion), flame (fire), skull and crossbones (toxicity), trefoil (radioactivity), liquids spilling from two glass vessels and attacking a hand and a metal (corrosion), supplemented by four others to indicate oxidizing substances (a flame over a circle), non-flammable, non-toxic gases (a gas cylinder), infectious substances (three crescents superimposed on a circle), and miscellaneous dangerous substances or articles (seven vertical stripes); and

(c) to provide, by means of colours on the labels, a useful first guide for handling and stowing.

13.3.2 In certain cases, where the danger of an item of dangerous goods is considered low, or the goods are packaged in a limited quantity, exemptions from labelling may be provided. Marking with the class or division and the packing group number may be required in accordance with Special Provision 29.

13.3.3 Unless there is an explicit or implicit indication to the contrary in these Recommendations, subsidiary risk labels should be applied according to the subsidiary risks identified in Chapter 2 as modified by any applicable special provision. Since a substance or article may present more than one significant risk, e.g. fire and toxicity, the package should, in such cases, bear in addition to the label corresponding to the primary risk such additional label(s) as would indicate such significant subsidiary risks. Where articles or substances are specifically listed in Chapter 2, a danger class label should be affixed for the hazard shown in the column headed 'Class or Division' and a subsidiary risk label for any hazard indicated by a class or division number in the column headed 'Subsidiary risks', unless qualified by a special provision. In certain cases the need for using a subsidiary risk label may also be indicated by a special provision.

13.3.4 If a substance which meets the definition of more than one class is not specifically listed by name in Chapter 2, the Precedence of Hazard Table in 1.44, should be used to determine the primary hazard class of the goods. In addition to the label required for that primary hazard class, subsidiary risk labels should also be applied as specified in the list in Chapter 2.

13.3.4.1 Substances of Class 8 need not bear subsidiary risk label model No. 06.1 if the toxicity arises solely from the destructive effect on tissue. Substances of Division 4.2 need not bear subsidiary risk label model No. 04.1.

13.3.5 Labels identifying primary risks should conform to models Nos. 1 to 9 illustrated in 13.5.1. Labels identifying subsidiary risks should display only the appropriate symbol and should conform to models Nos. 01 to 08 illustrated in 13.5.2.

13.3.6 Three separate labels have been provided for Class 2, one for flammable gases of Division 2.1 (red), one for non-flammable, non-toxic gases of Division 2.2 (green) and one for toxic gases of Division 2.3 (white). Where the list of dangerous goods indicates that a Class 2 gas possesses single or multiple subsidiary risks, labels should be used in accordance with Table 13.1. In each case, the primary risk label shown in column 3 of that table should conform to 13.5.1 (models Nos. 2.1, 2.2 or 2.3).

13.3.7 These recommendations relate essentially to danger labels. However, additional markings or symbols indicating precautions to be taken in handling or storing a package (e.g. a symbol representing an umbrella indicating that a package should be kept dry) may be displayed on a package if appropriate.

Table 13.1: LABELS FOR CLASS 2 GASES WITH SUBSIDIARY RISK(S)

Division	Subsidiary risk(s) shown in Chapter 2	Primary risk label(13.5.1)	Subsidiary risk label(s) (13.5.2)
2.1	None	2.1	None
2.2	None	2.2	None
	5.1	2.2	05
2.3	None	2.3	None
	2.1	2.3	03
	5.1	2.3	05
	5.1, 8	2.3	05, 08
	8	2.3	08
	2.1, 8	2.3	03, 08

13.4 Particulars of labels

13.4.1 The recommended labels are all in the form of a square set at an angle of 45° (diamond-shaped) with minimum dimensions of 100 mm by 100 mm, except in the case of packages of such dimensions that they can only bear smaller labels. They have a line of the same colour as the symbol, 5 mm inside the edge and running parallel with it.

13.4.2 The labels are divided into halves. With the exception of Divisions 1.4, 1.5 and 1.6, the upper half of the label is reserved for the pictorial symbol and the lower half for texts and the class or division number and the compatibility group letter as appropriate.

13.4.3 Except for Divisions 1.4, 1.5 and 1.6, labels for Class 1 show in the lower half the division number and compatibility group letter for the substance or article. Labels for Divisions 1.4, 1.5 and 1.6 show in the upper half the division number and in the lower half the compatibility group letter. For Division 1.4, Compatibility Group S, no label is recommended but if a regulatory authority does require a label it should be based on the model in Figure 13.1.

13.4.4 In the case of primary risk labels for Class 5, the division number of the substance should be shown in the bottom corner of the label. For all other primary risk labels, the class number of the substance or article should be shown in the bottom corner of the label. Specimens of the primary risk labels for each class are given in 13.5.1 (models Nos. 1 to 9).

13.4.5 Blanks in the text appearing in the lower half of the labels for material of Class 7 should be completed as necessary. On labels other than those for material of Class 7, the insertion of any text (other than the class or division number) in the space below the symbol should be confined to particulars indicating the nature of the risk and precautions to be taken in handling.

13.4.6 The symbols, texts and numbers should be shown in black on all labels except:

(a) the Class 8 label, where the text (if any) and class number should appear in white; and

(b) labels with entirely green, red or blue backgrounds where they may be shown in white.

13.4.7 All labels should be able to withstand open weather exposure without a substantial reduction in effectiveness.

13.4.8 Labels should be affixed on a surface of contrasting colour.

13.4.9 Gas cylinders for Class 2 may, on account of their shape, orientation and securing mechanisms for transport, bear labels representative of those specified in this section, which have been reduced in size, as appropriate, for display on the non-cylindrical part (shoulder) of such cylinders.

13.5 Specimen labels

13.5.1 Specimen primary risk labels

Class 1
Explosive substances or articles

(No.1)
Divisions 1.1 , 1.2 and 1.3
Symbol (exploding bomb): black ; Background : orange ; figure '1' in bottom corner

(No.1.4)
Division 1.4

(No.1.5)
Division 1.5

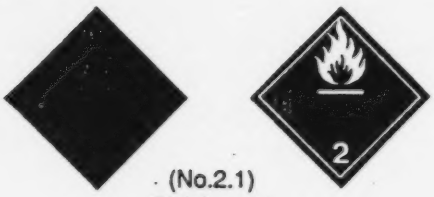
(No.1.6)
Division 1.6

Background: orange; Figures: black; Numerals should be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm x 100 mm); figure '1' in bottom corner

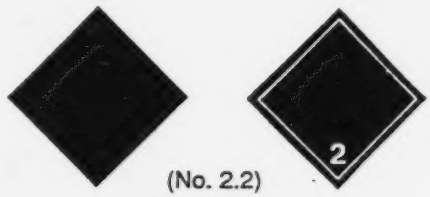
** Place for division

* Place for compatibility group

Class 2
Gases



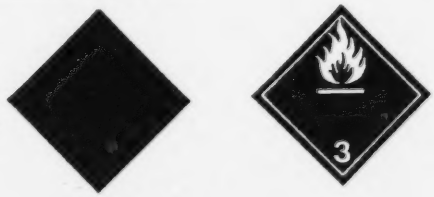
(No.2.1)
Division 2.1
Flammable gases
Symbol (flame): black or white
Background: red; figure '2' in bottom corner



(No. 2.2)
Division 2.2
Non-flammable , non-toxic gases
Symbol (gas cylinder) : black or white ;
Background : green ; figure '2' in bottom corner

(No. 2.3)
Division 2.3
Toxic gases
Symbol (skull and crossbones) black ;
Background : white ; figure '2' in bottom corner

Class 3
Flammable liquids



(No. 3)
Symbol (flame) : black or white ;
Background : red ; figure '3' in bottom corner

Class 4

(No. 4.1)
Division 4.1
Flammable solids ;
Symbol (flame) : black ;
Background : white with
seven vertical red stripes ;
figure '4' in bottom corner

(No 4.2)
Division 4.2
Substances liable
to spontaneous combustion ,
Symbol (flame) : black ;
Background : upper half white
lower half red ;
figure '4' in bottom corner

(No 4.3)
Division 4.3
Substances which in contact
with water emit flammable gas.
Symbol (flame) : black or white ;
Background : blue ;
figure '4' in bottom corner

Class 5

(No. 5.1)
Division 5.1
Oxidizing substances

(No. 5.2)
Division 5.2
Organic peroxides

Symbol (flame over circle) : black ; Background : yellow ;
figures '5.1' in bottom corner — figures '5.2' in bottom corner

Class 6

(No. 6.1)
Division 6.1
Toxic substances,
Symbol (skull and crossbones): black ;
Background : white ;
figure '6' in bottom corner

(No. 6.2)
Division 6.2
Infectious substances
The lower half of the label may bear the inscriptions : 'INFECTIOUS SUBSTANCE'
and 'In the case of damage or leakage immediately notify Public Health Authority';
Symbol (three crescents superimposed on a circle) and inscriptions : black ;
Background : white ; figure '6' in bottom corner

Class 7
Radioactive material

(No. 7A)
Category I - White
Symbol (trefoil) : black ; Background : white
Text (mandatory) : black in lower half of label :
'RADIOACTIVE'
'Contents.....'
'Activity.....'
One red bar should follow the word 'Radioactive'
figure '7' in bottom corner

(No. 7B)
Category II - Yellow

(No. 7C)
Category III - Yellow

Symbol (trefoil) : black ; Background : upper half yellow with white border, lower half white ;
Text (mandatory) : black in lower half of label :
'RADIOACTIVE'
'Contents.....'
'Activity.....'
In a black outlined box -'Transport Index'
Two red vertical bars should follow the word 'Radioactive'
Three red vertical bars should follow the word 'Radioactive'
figure '7' in bottom corner

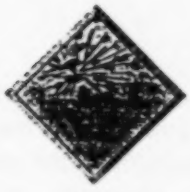
Class 8
Corrosive substances

(No. 8)
Symbol (liquids, spilling from two glass vessels and attacking a hand and a metal) : black ;
Background : upper half white,
lower half black with white border ;
figure '8' in white in bottom corner

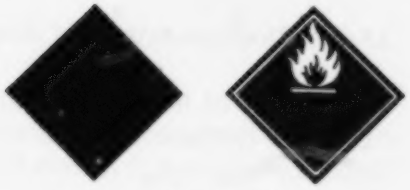
Class 9
Miscellaneous dangerous substances and articles

(No.9)
Symbol (seven vertical stripes in upper half) : black ;
Background : white ;
figure '9' underlined in bottom corner

13.5.2 Specimen subsidiary risk labels



(No. 01)



(No. 03)

(No.04.1)

(No.04.2)

(No.04.3)

(No.05)

(No.06.1)

(No.08)

13.5.3 Examples of display of UN Numbers on Placards

Figure 13.1

* location of class or division number
** location of UN Number

Figure 13.2

Figure 13.3
Placard for radioactive material of class 7

(No. 7D)
Symbol (trefoil) : black ; Background : upper half yellow with white border, lower half white ;
The lower half should show the appropriate UN Number (see 13.7.5)
and/or the word 'RADIOACTIVE' ; and the figure '7' in the bottom corner.

13.6 Documentation* of dangerous goods consignments

13.6.1 One of the primary requirements of the transport document for dangerous goods is to convey the fundamental information relative to the hazard of the goods being offered for transport. To achieve this end, it is considered necessary to include certain basic information in the transport document for the dangerous goods consignment unless otherwise exempted in these Recommendations. It is recognized that individual national authorities or international organizations may consider it necessary to require additional information. However, the basic items of information considered necessary for each dangerous substance, material or article offered for transport by any mode are:

(a) the proper shipping name, as determined in accordance with 13.8;

(b) the class or, when assigned, the division of the goods; for substances and articles of Class 1, the division should be followed immediately by the compatibility group letter;

(c) the UN Number preceded by the letters "UN" and, where assigned, the Packing Group for the substance or article; and

(d) the total quantity of dangerous goods covered by the description (by volume, mass, or net explosive content, as appropriate).

13.6.1.1 In addition, other elements of information deemed necessary by national authorities or international organizations may also be shown (e.g. flash point or flash point range in °C c.c.).

13.6.1.2 If waste dangerous goods (other than radioactive wastes) are being transported for disposal, or for processing for disposal, the proper shipping name should be preceded by the word "WASTE".

13.6.1.3 For self-reactive substances of Division 4.1 and for organic peroxides that require temperature control during transport, the control and emergency temperatures should be included in the transport document.

13.6.1.4 For certain self-reactive and related substances of Division 4.1 and organic peroxides of Division 5.2 for which the competent authority has permitted the "EXPLOSIVE" subsidiary risk label (model No.01) to be dispensed with for the specific package, a statement to this effect should be included in the transport document.

13.6.1.5 When organic peroxides and self-reactive substances are transported under conditions where approval is required (for organic peroxides see 11.3.2.5, 11.3.12.2, 12.551 and 12.553; for self-reactive substances see 14.2.2.3.3 and 14.2.2.9.1), a statement to this effect should be included

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*/ Note: Reference to documents in these Recommendations does not preclude the use of electronic data processing (EDP) and electronic data interchange (EDI) transmission techniques as an aid to paper documentation.

in the transport document. A copy of the statement of approval of the classification and conditions of transport for non-listed organic peroxides and self-reactive substances should be attached to the transport document.

13.6.1.6 When a sample of an organic peroxide (see 11.3.2.6) or a self-reactive substance (see 14.2.2.3.5) is transported, a statement to this effect should be included in the transport document.

13.6.2 The location and order in which these elements of information appear in the transport document is left optional, except that the proper shipping name, class, UN Number and, where assigned, Packing Group should appear in that sequence. An example of a dangerous goods description is:

"ALLYL ALCOHOL 6.1 UN 1098 I"

13.6.3 It is not the intention of these recommendations to require a separate transport document for dangerous goods when a consignment contains both dangerous and non-dangerous goods, or to restrict the number of individual dangerous goods descriptions that may appear on a single document. However, if both dangerous and non-dangerous goods are listed in one document, the dangerous goods should be listed first, or otherwise emphasized.

13.6.4 The dangerous goods transport document to be prepared by the shipper should in addition carry, or be accompanied by, a certificate or declaration that the consignment offered can be accepted for transport and that the goods are properly packaged, marked and labelled, and in proper condition for transport in accordance with the applicable regulations. The text of this declaration should be adaptable to all modes of transport, making a dangerous goods transport document issued for the initial mode of transport valid for subsequent modes in multimodal and combined transport. A suggested form for such a declaration is:

> "I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/ placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations."

13.6.5 The text of the above declaration, and the special information relative to the hazards of the goods to be transported (as indicated in 13.6.1) should be incorporated in, or combined with, an existing transport or cargo handling document. The layout of the information in the document (or the order of transmission of the corresponding data by electronic data processing (EDP) or electronic data interchange (EDI) techniques) should be as provided in 13.6.1.

13.6.6 When dangerous goods are loaded into a freight container*/, those responsible for supervising this operation **/ should provide a "container packing certificate" certifying that the operation has been carried out in accordance with the following conditions, and identifying the person signing the certificate:

(a) the container is clean, dry and apparently fit to receive the goods;

(b) packages which should be segregated, i.e. in different freight containers, have not been loaded together in the container;

(c) all packages have been externally inspected for damage, and only sound packages loaded;

(d) all goods have been properly loaded and, where necessary adequately braced with securing material, to suit the mode(s) of transport for the intended journey;

(e) goods loaded in bulk have been evenly distributed within the container;

(f) the container and packages are properly marked, labelled and placarded in accordance with 13.2, 13.3 and 13.7; and

(g) a certificate or declaration, as indicated in 13.6.4, has been received for each dangerous goods consignment loaded in the container.

13.6.7 The functions of the document required in 13.6.4 and of the container packing certificate required in 13.6.6 may be incorporated in a single document; if not it may be desirable to attach these documents one to the other. If these functions are incorporated into a single document, the inclusion of a signed declaration that the packing of the container has been carried out in accordance with the applicable modal regulations together with the identification of the person signing the declaration may suffice.

13.6.8 When an existing transport document or cargo handling document cannot be used for the purposes of dangerous goods documentation for international transport, the use of a document of the form shown in Figure 13.4 is considered advisable. ***/

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*/ *For the purposes of this recommendation the term "freight container" is limited to transport units meeting the definition of "container" in the International Convention for Safe Containers (CSC) signed at Geneva on 2 December 1972. The term does not include a "tank container" as defined in 12.2.2, 12.24.2 or 17.2.2 or a freight container being used to transport radioactive material and which complies with the IAEA requirements for freight containers.*

**/ *Guidelines for use in practice and in training for loading goods in freight containers or vehicles have been drawn up by the International Maritime Organization (IMO) and the International Labour Organisation (ILO) and have been published by IMO (IMO/ILO Guidelines for Packing Cargo in Freight Containers or Vehicles).*

***/ *If used, consult Recommendation No.11 adopted by the UN/ECE Working Party on Facilitation of International Trade Procedures for the specific details (TRADE/WP.4/INF.53 or TD/B/FAL/INF.53).*

13.6.9 For consignments for which a dangerous goods transport document is required by these Recommendations, appropriate information should be immediately available at all times for use in emergency response to accidents and incidents involving dangerous goods in transport. The information should be available away from the packages containing the dangerous goods and immediately accessible in the event of an accident or incident. Methods of compliance include:

(a) appropriate entries in the transport document; or

(b) provision of a separate document such as a safety data sheet; or

(c) provision of a separate document, such as the ICAO "Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods" or the IMO "Emergency Procedures for Ships Carrying Dangerous Goods" and "Medical First Aid Guide in Accidents Involving Dangerous Goods", for use in conjunction with the transport document.

FIGURE 13.4: DANGEROUS GOODS TRANSPORT DOCUMENT

Shipper (Name & Address)	Reference number(s)
(Reserved for text, instructions or other matter)	Name of carrier (or his agent)
	(Reserved for text, instructions or other matter)
Name/means of transport / Port/place of departure	
Port/place of destination	

Marks & number; Number & kind of packages; Description of goods* INDICATE: HAZARD CLASS/DIV.; UN NUMBER, PACKING GROUP, FLASH POINT (in °C c.c.) (when required) CONTROL AND EMERGENCY TEMPERATURES (in °C) (when required)	Gross mass (kg) Net quantity (when required)

*PROPER SHIPPING NAME (proprietary names alone are not sufficient) which should be, when required, and as appropriate: (1) preceded by the word "WASTE"; (2) supplemented by the words "LIMITED QUANTITY" or "LTD QTY"; (3) supplemented by the technical name.

Additional information

Special information is required for (1) Radioactive material (Class 7) and (2) certain self-reactive and related substances of Division 4.1 and certain organic peroxides of Division 5.2. In certain circumstances (3) a weathering certificate or (4) a Container/Vehicle Packing Certificate is required.

DECLARATION	Name/status of signatory Place and date Signature on behalf of Shipper

Page size: "A4" (210 x 297 mm or 8.27 x 11.69 inches)

13.7 Placards

13.7.1 Placards should be affixed to the exterior surface of transport units to provide a warning that the contents of the unit are dangerous goods and present risks.

13.7.1.1 However, the recommendation in 13.7.1 does not apply to transport units carrying any quantity of explosives of Division 1.4, Compatibility Group S, limited quantities, or of excepted packages of radioactive material (Class 7).

13.7.1.2 Placards indicating the highest risk only may be affixed on transport units carrying substances and articles of more than one division in Class 1.

13.7.1.3 For all classes except Class 7, placards are enlarged United Nations labels. For Class 7, the placard has overall dimensions of 250 mm by 250 mm with a black line inside the edge and running parallel to it and is otherwise as shown in Figure 13.3. However, where a regulatory authority finds that both labels and placards would be required to be affixed to transport units, enlarged labels may be displayed to serve both purposes.

13.7.2 Transport units comprise road transport tank and freight vehicles, railway transport tank and freight wagons, and multimodal tank and freight containers.

13.7.3 Transport units carrying dangerous goods or the residue of dangerous goods in unpurged tanks should display placards clearly visible on at least two opposing sides of the units and in any case in such a position as may be seen by all those involved in the loading or unloading process. Where the transport unit has a multiple compartment tank which is carrying two or more dangerous goods and/or the residues of dangerous goods, appropriate placards should be displayed along each side at the position of the relevant compartments.

13.7.4 A placard should:

(a) be not less than 250 mm by 250 mm, with a line of the same colour as the symbol running 12.5 mm inside the edge and parallel with it;

(b) correspond to the label for the class of the dangerous goods in question with respect to colour and symbol; and

(c) display the number of the class or division (and for goods in Class 1, the compatibility group letter) of the dangerous goods in question in the manner prescribed in 13.4 for the corresponding label, in digits not less than 25 mm high.

13.7.5 Except for goods of Class 1, consignments of:

solids, liquids or gases transported in tank transport units; or

packaged dangerous goods of a single commodity which constitute a full load for the transport unit;

should have the UN Number for the goods displayed in black digits not less than 65 mm high, either

against a white background in the lower half of the placard (see Figures 13.1 and 13.3); or

on an orange rectangular panel not less than 120 mm high and 300 mm wide, with a 10 mm black border, to be placed immediately adjacent to the placard (see Figure 13.2).

13.7.6 Placards should be displayed for those subsidiary risks specified in Chapter 2. However, transport units containing goods of more than one class need not bear a subsidiary risk placard if the hazard represented by that placard is already indicated by a primary risk placard.

13.7.7 Transport units containing a substance that is transported or offered for transport in a liquid state at temperatures equal to or exceeding 100 °C, in a solid state at temperatures equal to or exceeding 240 °C should bear on each side and on each end the mark shown in Figure 13.5. The triangular shaped mark should have sides of at least 250 mm and should be shown in red.

Figure 13.5

13.8 Proper shipping name

13.8.1 The reason for indicating the proper shipping name of the substance, material or article in the transport document accompanying a consignment, and for marking this name on the package containing the goods, is to ensure that the substance, material or article can be readily identified during transport. This ready identification is particularly important in the case of a spill or leak of the dangerous goods in order to determine what response actions, emergency equipment or antidotes for toxic substances are necessary properly to deal with the situation.

13.8.2 The proper shipping name is considered to be that portion of the entry most accurately describing the goods in the list in Chapter 2 or the index of dangerous goods, which is shown in capital letters plus any numbers, Greek letters, 'sec', 'tert', m, n, o, p, which form an integral part of the name.

13.8.3 Care should be exercised in the selection of the portion of the entry in the list or index, which constitutes the "Proper Shipping Name" of the dangerous goods. Portions of an entry appearing in lower case need not be considered as part of the proper shipping name. When conjunctions such as "and" or "or" are in lower case or when segments of the name are punctuated by commas, the entire name of the entry need not necessarily be shown in the transport document or package markings. This is the case particularly when a combination of several distinct entries are listed under a single serial UN Number.

13.8.3.1 Examples illustrating the selection of the proper shipping name for such entries are:

(a) UN 1011 BUTANE or BUTANE MIXTURE - The proper shipping name is the most appropriate of the following possible combinations:

BUTANE
BUTANE MIXTURE

(b) UN 3207 ORGANOMETALLIC COMPOUND or SOLUTION or DISPERSION, WATER-REACTIVE, FLAMMABLE, N.O.S.*. The proper shipping name is the most appropriate of the following possible combinations:

ORGANOMETALLIC COMPOUND, WATER-REACTIVE, FLAMMABLE, N.O.S.
ORGANOMETALLIC SOLUTION, WATER-REACTIVE, FLAMMABLE, N.O.S.
ORGANOMETALLIC DISPERSION, WATER-REACTIVE, FLAMMABLE, N.O.S.

each supplemented with the technical name of the goods (see 13.8.4).

13.8.3.2 Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are used as part of the proper shipping name their sequence on documentation or package markings is optional. For instance, 'Dimethylamine solution' may alternatively be shown 'Solution of Dimethylamine'. Commercial or military names for goods of Class 1 which contain the proper shipping name supplemented by additional descriptive text may be used.

13.8.4 Practical considerations prohibit the listing of all dangerous goods by name in these recommendations. Therefore, many dangerous goods have to be transported under one of the generic or not otherwise specified (n.o.s.) names (entries) which appear in the list in Chapter 2 or the index . Because of the highly generic nature of certain of these names, neither the entry itself nor its corresponding UN Number can provide sufficient information about dangerous goods to ensure that appropriate response action is initiated in the event of an incident involving the goods. For this reason it is considered necessary, for the purposes of documentation and marking of packages, that these "N.O.S." or "generic" descriptions be supplemented with the technical name of the goods, unless a national law or international convention prohibits its disclosure if it is a controlled substance. The particular 'N.O.S.' or 'generic' entries for which this supplementary information is considered necessary are marked by an asterisk at the end of the name shown in column (a2) of the list in Chapter 2.

13.8.4.1 The technical name should be shown in parenthesis immediately following the proper shipping name. It should be a recognized chemical or other name currently used in scientific and technical handbooks, journals and texts. Trade names should not be used for this purpose. In the case of pesticides, only ISO common name(s), other name(s) in Table 6.1, or the name(s) of the active substance(s) should be used.

13.8.5 It is recognized that when a mixture of dangerous goods is described by one of the "N.O.S." or "generic" entries designated with an asterisk in Chapter 2, the inclusion in parentheses of the technical name of each constituent that contributes to the hazard of the mixture may result in such a lengthy description that marking the entire description on the package becomes impractical. In general, not more than the two constituents which most predominantly contribute to the hazard or hazards of a mixture need to be shown, excluding controlled substances when their disclosure is prohibited by national law or international convention. If a package containing a mixture is labelled with any subsidiary risk label, one of the two technical names shown in parentheses should be the name of the constituent which compels the use of the subsidiary risk label.

13.8.5.1 Examples illustrating the selection of the proper shipping name supplemented with the technical name of goods for such N.O.S. entries are:

UN 2003 METAL ALKYL, N.O.S. (trimethylgallium)
UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S. (drazoxolon).

13.8.6 For solutions and mixtures treated according to the requirements given for the dangerous substance (see 1.40 and 1.41) the qualifying word 'SOLUTION' or 'MIXTURE', as appropriate, should be added as part of the proper shipping name, e.g. 'ACETONE SOLUTION'.

13.8.7 Unless it is already included in capital letters in the name indicated in Chapter 2, the qualifying word "LIQUID" or "SOLID", as appropriate, should be added as part of the proper shipping name when a substance specifically listed by name may, due to the differing physical states of the various isomers of the substance, be either a liquid or a solid (e.g. DINITROTOLUENES, LIQUID; DINITROTOLUENES, SOLID).

13.8.8 If the proper shipping name of a substance that is transported or offered for transport in a liquid state at temperatures equal to or exceeding 100°C, or in a solid state at temperatures equal to or exceeding 240 °C, does not convey the elevated temperature condition (for example, by using

the term "MOLTEN" or "ELEVATED TEMPERATURE" as part of the shipping name), the word "HOT" should immediately precede the proper shipping name on the transport document.

13.8.9 Unless it is already included in capital letters in the name indicated in Chapter 2, the qualifying word "MOLTEN" should be added as part of the proper shipping name when a substance, which is a solid in accordance with the definition in 1.10, is offered for transport in the molten state (e.g. ALKYLPHENOL, SOLID, N.O.S., MOLTEN).

13.9 Overpacks

13.9.1 An overpack is defined as an enclosure used by a single consignor to contain one or more packages and to form one unit for convenience of handling and stowage during transport. Examples of overpacks are a number of packages either:

(a) placed or stacked on to a load board such as a pallet and secured by strapping, shrink wrapping, stretch wrapping, or other suitable means; or

(b) placed in a protective outer packaging such as a box or crate.

13.9.2 An overpack should be marked with the proper shipping name and the UN Number and labelled, as required for packages by this chapter, for each item of dangerous goods contained in the overpack unless markings and labels representative of all dangerous goods in the overpack are visible.

13.9.3 Each package of dangerous goods contained in the overpack should comply with all applicable provisions of these Recommendations. The intended function of each package should not be impaired by the overpack.

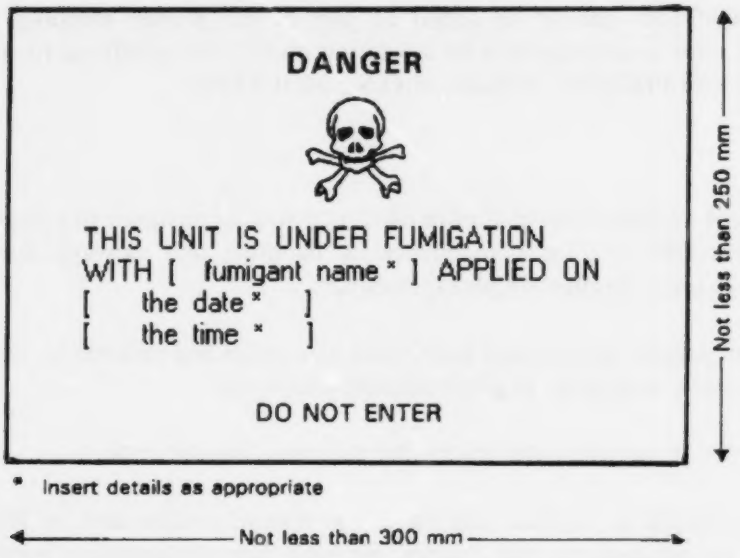
13.9.4 An overpack should not contain dangerous goods which react dangerously with one another.

13.10 Documentation and identification of fumigated transport units

13.10.1 Transport documents associated with the carriage of transport units that have been fumigated should show the date of fumigation and the type and amount of the fumigant used. In addition, instructions for disposal of any residual fumigant including fumigation devices (if used) should be provided.

13.10.2 A warning sign as specified in Figure 13.6 should be placed on each fumigated transport unit in a location where it will be easily seen by persons attempting to enter the interior of the unit.

Figure 13.6: Fumigation Warning Sign


DANGER
THIS UNIT IS UNDER FUMIGATION
WITH [fumigant name *] APPLIED ON
[the date *]
[the time *]
DO NOT ENTER
Not less than 250 mm
* Insert details as appropriate
Not less than 300 mm